REDleaf
RESOURCES, INC.

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CEO

Energy Industry Experience

- **Red Leaf Resources – 2012**
- **Downstream Oil & Gas 30+ years**
  - 9 U.S refineries, 6 western European refineries
- **Mining & Oil Shale Experience**
  - Wyoming & Colorado
- **Cherokee Nation**

Oil Shale Opportunity

- 2.8 Trillion recoverable barrels have been discovered worldwide
- U.S. has the largest oil shale resources in the world with 2.1 Trillion barrels
  - Most significant oil shale deposit is in the Green River Formation of Colorado, Wyoming and Utah
  - 1.5 trillion barrels in Green River Formation

Ref. USGS

Red Leaf Opportunity

- **Expert Oil Shale Team**
- **Developed Technology**
  - Pilot demonstration – 2009
  - Proof of Industrial Concept – Fully Funded
  - Initial Commercialization – Funded
- **Potential to create viable oil shale industry**
  - Lower Capital Cost / Optimized as you go
  - Relatively Small Environmental Footprint
  - Faster to Market
    - Oil Shale to → “transportation fuels”

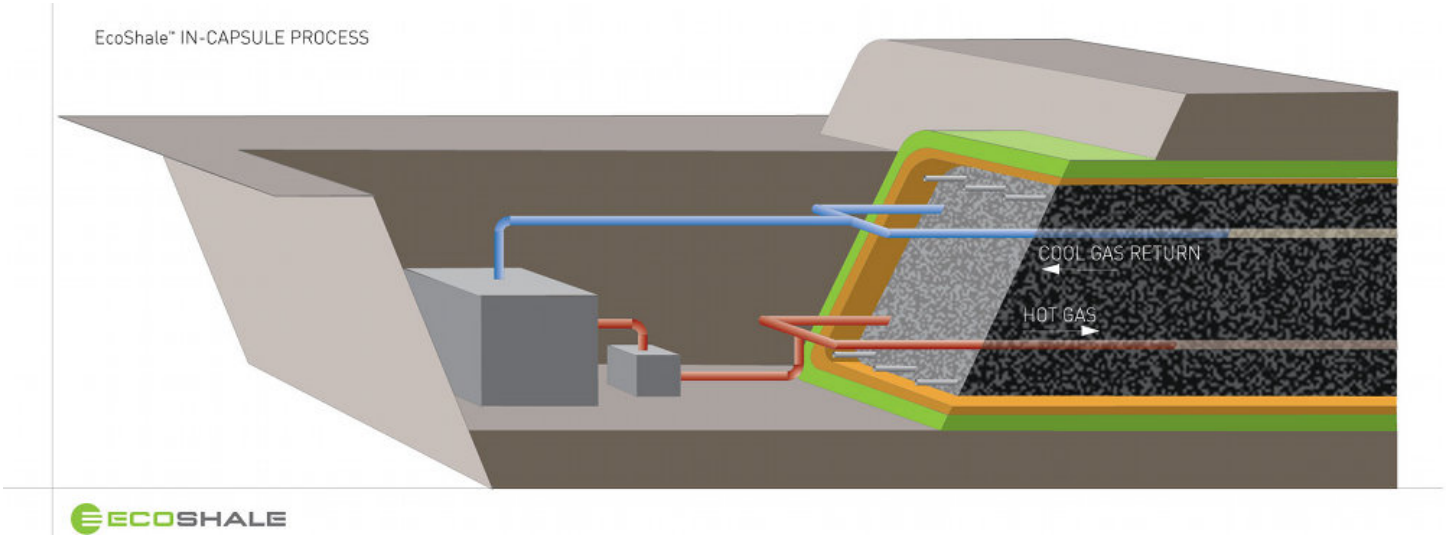
Red Leaf History

- **2006 Company Founded**
  - Outstanding Uinta Basin Resources Merged with New Technology
- **2009 Successful Test – 1:10 Scale Plant**
  - Extraction from 1,000 Tons of Oil Shale
    - 350+ Bbls of Oil Produced
- **2012 Utah $400MM Joint Venture with TOTAL**
  - Completing Final Design for EPS (Early Production System)
    - Currently Field Testing Construction Methods
    - EPS Project complete by 2015
    - Extraction from 1MM+ Tons of Oil Shale
    - Producing 300,000+ Bbls of Oil

Red Leaf Future

- **2015 – Final Design for Continuous Commercial Production**
  - JV funds initial Commercialization, ~10,000 Bbls/day
  - 1.2 Billion Bbls Estimated within Leases
- **Joint Venture with Questerre Energy in Wyoming**
  - 0.8 Billion Bbls Estimated within Leases

The Technology



- Clay Liner
- In-Pit Extraction
- O_2-Free Capsule
- Gas Convection Heating
- Near Zero Fines
- Skid-Mounted Equipment

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The EcoShale In-Capsule Process

- Hybrid of both in-situ & surface technologies ("Modified *In Situ*")
- Mined oil shale placed into impermeable clay-lined capsule
- Expendable closed-wall heat pipes placed horizontally in capsule
- Bottom liquid drain system
- Top perforated pipes collect hydrocarbon vapor
- Overburden reclaimed as part of capsule construction
- Relatively low temperature produces high grade, light crude
- Low water consumption

Resource Location

In-place Oil Shale Resources[1]

Country	MMbbls
USA	2,085,228
Russian Federation	247,883
Congo (DRC)	100,000
Brazil	82,000
Italy	73,000
Morocco	53,381
Jordan	34,172
Australia	31,729
Estonia	16,286
China	16,000
Canada	15,241
Other Combined	71,183
Total World	**2,826,103**

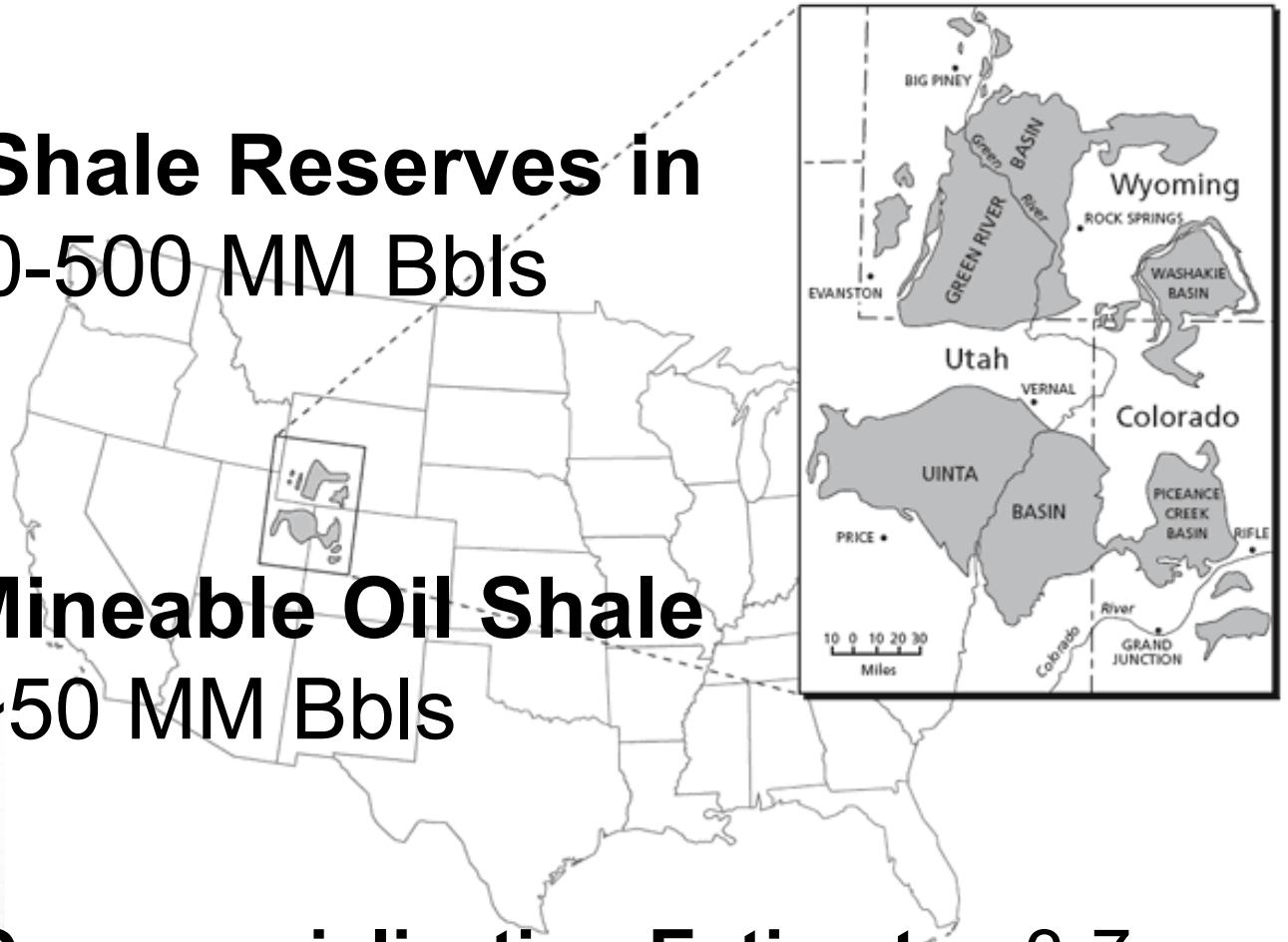
1. U.S. Geological Survey

Utah Oil Shale

Green River Formation:
1.5T Bbls

Total Oil Shale Reserves in Utah: 300-500 MM Bbls

Surface Mineable Oil Shale in Utah: ~50 MM Bbls



Decision-to-Commercialization Estimate: 3-7 years

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SOURCE: Adapted from Smith, 1980.

RAND *MG414-2.1*

Questions?